UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,345	09/11/2003	Duncan Missimer	112-0126US	8036

29855 7590 10/01/2008

WONG, CABELLO, LUTSCH, RUTHERFORD & BRUCCULERI, L.L.P.
20333 SH 249
SUITE 600
HOUSTON, TX 77070

EXAMINER	
GOODCHILD, WILLIAM J	
ART UNIT	PAPER NUMBER
2145	

MAIL DATE	DELIVERY MODE
10/01/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/661,345	MISSIMER ET AL.	
	Examiner	Art Unit	
	WILLIAM J. GOODCHILD	2145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-20,29-49,76-83 and 92-118* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-20, 29-49, 76-83 and 92-118* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 12-18, 29-41, 43, 76-82, 92-98 and 101-118 are rejected under 35 U.S.C. 102(e) as being anticipated by Raman et al., (hereinafter Raman), (US Publication No. 2003/0217119).

In reference to claims 12, 29, 35 and 44, Raman teaches a method / system comprising: transmitting a write request for half of said multiple blocks of data to said multiple targets [paragraphs 71 and 79].

In reference to claims 13, 30, 36 and 45, Raman teaches the method / system of claims 12, 29, 35 and 44, wherein: said multiple targets comprise all targets [paragraph 71].

In reference to claims 14, 31, 37 and 46, Raman teaches the method / system of claims 12, 29, 35 and 44, wherein: transferring to said multiple targets, half of said multiple blocks of data, if said multiple targets satisfy said request for half of said multiple blocks of data [paragraph 79].

In reference to claims 15, 32, 38 and 47, Raman teaches the method / system of claims 14, 31, 37 and 46, wherein: said multiple targets comprise all targets [paragraph 71].

In reference to claims 16, 33, 39 and 48, Raman teaches the method / system of claims 12, 29, 35 and 44, wherein: transmitting a new write request for half of an amount of an immediately previous write request, if said multiple targets do not satisfy the amount of data to be transferred by said immediately previous write request [paragraph 79].

In reference to claims 17, 34, 40 and 49, Raman teaches the method / system of claims 16, 33, 39 and 48, wherein: said multiple targets comprise all targets [paragraph 71].

In reference to claims 18 and 41, Raman teaches the method / system of claims 12 and 35, wherein: at least one of said multiple targets comprises a storage disk [paragraph 68].

In reference to claims 76 and 92, Raman teaches a method / system comprising: a host [paragraph 53 and figure 2]; a physical storage unit [paragraph 53 and figure 2];

a first switch [paragraph 53 and figure 2]; and a second switch coupled to said first switch and forming a switched fabric [paragraph 53 and figure 2], said first switch and said second switch coupled to said host and said physical storage unit [figure 2], said first switch including: at least a port [paragraph 13]; a mirroring device capable of mirroring multiple blocks of data to multiple targets, if said multiple targets do not satisfy the amount of data to be transferred in said multiple blocks of data [paragraph 53]; logic for signal information to pass at least between said port and said mirroring device [paragraphs 71 and 79]; said mirroring device being adapted to transmit a write request for a subset of said multiple blocks of data to said multiple targets [paragraphs 71 and 79].

In reference to claims 77 and 93, Raman teaches the method / system of claims 76 and 92, wherein: said multiple targets comprise all targets [paragraph 71].

In reference to claims 78 and 94, Raman teaches the method / system of claims 76 and 92, wherein: said mirroring device is further adapted to transfer to said multiple targets, said subset of said multiple blocks of data, if said multiple targets satisfy said request for said subset of said multiple blocks of data [paragraph 79].

In reference to claims 79 and 95, Raman teaches the method / system of claims 78 and 94, wherein: said multiple targets comprise all targets [paragraph 71].

In reference to claims 80 and 96, Raman teaches the method / system of claims 76 and 92, wherein: said mirroring device is further adapted to transmit a new write request for a further subset of an amount of an immediately previous write request, if said multiple targets do not satisfy the amount of data to be transferred by said immediately previous write request [paragraph 79].

In reference to claims 81 and 97, Raman teaches the method / system of claims 76 and 92, wherein: said multiple targets comprise all targets [paragraph 71].

In reference to claims 82 and 98, Raman teaches the method / system of claims 76 and 92, wherein: at least one of said multiple targets comprises a storage disk [paragraph 68].

In reference to claims 101, 107 and 113, Raman teaches a method / system comprising: a first switch [paragraph 53]; and a second switch coupled to said first switch [paragraph 53], said second switch including: at least a port [paragraph 13];

a mirroring device capable of mirroring multiple blocks of data to multiple targets [paragraphs 10 and 11]; and logic for signal information to pass at least between said port and said mirroring device [paragraphs 71 and 79 and figure 12]; said mirroring device being adapted to: receive a write request for a selected number of data blocks

directed to a single target [paragraph 79 and figure 12]; issue write requests for said selected number of data blocks to each of the multiple targets [paragraph 79 and figure 12]; receive replies indicating an allowable number of data blocks from each of the multiple targets [paragraph 79 and figure 12]; if each of the replies indicates an allowable number of data blocks sufficient to accommodate the write request: provide a reply indicating a sufficient number of data blocks; receive said selected number of data blocks [paragraph 79 and figure 12]; and provide each of the received data blocks to each of the multiple targets; and if any of the replies indicates an allowable number of data blocks not sufficient to accommodate the write request: transmit a write request for a portion of the selected number of data blocks to each of the multiple targets [paragraph 79 and figure 12]; receive replies indicating an allowable number of data blocks from each of the multiple targets [paragraph 79 and figure 12]; if each of the replies indicates an allowable number of data blocks sufficient to accommodate the write request: provide a reply indicating a number of data blocks [paragraph 79 and figure 12]; receive said portion of said selected number of data blocks; and provide each of the received data blocks to each of the multiple targets [paragraph 79 and figure 12];

determine if the received write request has been completed [paragraphs 79 and 80 and figure 12]; if the received write request has been completed, provide a write command complete [paragraphs 79 and 80 and figure 12]; and if the received write request has not been completed, return to the most recently performed operation of transmitting a write request [paragraphs 79 and 80 and figure 12].

In reference to claims 102, 108 and 114, Raman teaches the method / system of claims 101, 107 and 113, wherein: if any of the replies to said write request for a portion of the selected number of data blocks indicates an allowable number of data blocks not sufficient to accommodate the write request for a portion of the selected number of data blocks: transmitting a write request for a smaller portion of the selected number of data blocks than the most recently transmitted write request [paragraphs 79 and 80 and figure 12]; receiving replies indicating an allowable number of data blocks from each of the multiple targets [paragraphs 79 and 80 and figure 12]; if each of the replies indicates an allowable number of data blocks sufficient to accommodate the smaller portion write request: providing a reply indicating a number of data blocks [paragraphs 79 and 80 and figure 12]; receiving said smaller portion of said selected number of data blocks [paragraphs 79 and 80 and figure 12]; and providing each of the received data blocks to each of the multiple targets [paragraphs 79 and 80 and figure 12]; and if any of the replies indicates an allowable number of data blocks not sufficient to accommodate the smaller portion write request, reducing the value of the smaller portion so that an even smaller number of data blocks is being utilized and returning to the step of transmitting a write request for a smaller portion using the even smaller value [paragraphs 79 and 80 and figure 12].

In reference to claims 103, 109 and 115, Raman teaches the method / system of claims 102, 108 and 114, wherein: transmitting an abort write request to each of the multiple targets before transmitting a write request for a portion of the selected number

of data blocks which is smaller than the immediately previous write request [paragraphs 79 and 108].

In reference to claims 104, 110 and 116, Raman teaches the method / system of claims 102, 108 and 113, wherein: said portion is one half and said smaller portion is one half of the previous portion [paragraph 79].

In reference to claims 105, 111 and 117, Raman teaches the method / system of claims 101, 107 and 113, wherein: transmitting an abort write request to each of the multiple targets before transmitting the write request for a portion of the selected number of data blocks [paragraphs 79 and 108].

In reference to claims 106, 112 and 118, Raman teaches the method / system of claims 101, 107 and 113, wherein: said portion is one half [paragraph 79].

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 19-20, 42-43, 83 and 99-100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raman, as applied to claims 12, 35, 76 and 92 above, and further in view of Ibrahim et al., (hereinafter Ibrahim), (US Patent No. 6,880,062).

Regarding claims 19, 42, 83 and 99, Raman discloses the limitations of claims 12, 35, 76 and 92 above, but do not specifically disclose said targets comprise systems that are compliant with the fibre channel Fibre Channel protocol. However, Ibrahim in the same field of endeavor, discloses the SAN using a Fibre Channel network [Ibrahim, column 2, lines 61-67]. It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate using a Fibre Channel network in order to provide for faster network speeds within the SAN.

Regarding claims 20, 43 and 100 Raman-Ibrahim further disclose said targets comprise systems that are compatible with the fibre channel Fibre Channel protocol [Ibrahim, column 2, lines 61-67].

Response to Arguments

5. Applicant's arguments filed 05/16/2008 have been fully considered but they are not persuasive.

A – Applicant argues “transmitting a write request for half of said multiple blocks of data to said multiple targets. Thus the claim explicitly requires transmitting the write request to multiple targets.”.

A – Raman discloses multiple targets, A delta volume and B delta volume [Raman, paragraph 71].

B – Applicant argues “The transmission step of claim 12 is to be performed if the multiple targets do not satisfy the amount of data to be transferred in said multiple blocks of data, as stated in the preamble.”.

B - In response to applicant's arguments, the recitation “if the multiple targets do not satisfy the amount of data to be transferred in said multiple blocks of data” has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

C – Applicant argues “Claim 16 requires sending a write request for half of the blocks of said previous write request, thus ¼ if the first iteration.”.

C - Raman discloses a recursive step, see figure 12, at the end of each path is either A or B, which will lead back to a point in the process at either A or B in the middle of the process, this will continue until there is no more data to be written.

D – Applicant argues “Claim 101 further requires issuing write request for the selected number of blocks and write requests for a portion of the selected number of blocks.".

D – Raman discloses issuing write requests for a selected number of blocks and for a portion of the selected number of blocks, delta set size and a threshold set size [Raman, paragraph 79].

E – Applicant argues “transmitting an abort write request before transmitting the write request.”.

E - Raman discloses issuing an abort write request [Raman, paragraphs 71, 79 and 108].

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Examiner's Note: Examiner has cited particular paragraphs / columns and line numbers in the reference(s) applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the cited passages as taught by the prior art or relied upon by the examiner.

Should applicant amend the claims of the claimed invention, it is respectfully requested that applicant clearly indicate the portion(s) of applicant's specification that support the amended claim language for ascertaining the metes and bounds of applicant's claimed invention

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM J. GOODCHILD whose telephone number is (571)270-1589. The examiner can normally be reached on Monday - Friday / 8:00 AM - 4:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on (571) 272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

WJG
09/22/2008

/Jason D Cardone/
Supervisory Patent Examiner, Art Unit 2145